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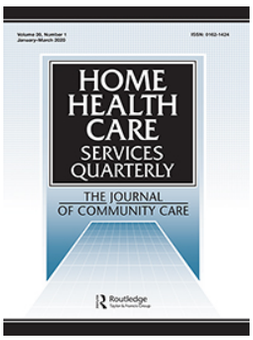

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Changing home care aides: Differences between family and non-family care in California Medicaid home and community-based services

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ABSTRACT

In California Medicaid home-and-community-based services (HCBS), recipients' family members receive payment as home care aides (HCAs). We analyzed data on first-time HCBS recipients to examine factors associated with the likelihood of switching HCAs within the first year of services. Those with family HCAs were less than half as likely to change than those with non-family HCAs and racial/ethnic minorities with non-family HCAs had the highest switching rates. Lower wages and local unemployment were associated with switching of non-family HCAs but not family HCAs. Policymakers can foster continuity of home care by paying family members for home care and raising worker wages.

KEYWORDS

Community and home care: staff roles; staffing patterns; staff responsibilities; policies/policy analysis; caregiving: filial; work issues; Medicare/Medicaid

Background and objectives

Home care aides (HCAs) provide key supportive services to enable older adults and persons with disabilities to remain in home and community settings, but approximately 25% leave their positions within one year (Frogner & Spetz, 2015; Seavey & Marquand, 2011). High exit rates raise concerns about both the supply of HCAs and the quality of care. Worker turnover in long-term services and supports is associated with increased risk of pressure ulcers, contractures, injuries, hospital admissions, use of physical restraints and urinary catheters, and poorer pain management (Bostick, Rantz, Flesner, & Riggs, 2006; Castle & Anderson, 2011; Newcomer, Kang, & Faucett, 2011). Conversely, continuity of home care workers is associated with improved care coordination and communication, and Activities of Daily Living (ADL) improvement (Russell, Rosati, Peng, Barrón, & Andreopoulos, 2013; Russell, Rosati, Rosenfeld, & Marren, 2011). It is therefore critical to

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understand factors that contribute to HCA retention, not only within the workforce but also within jobs.

The present study addresses HCAs in California's Medicaid Home and Community-based Services (HCBS) program, the largest consumer-directed Medicaid program in the nation. In California, recipients identify, hire, and fire HCAs – who may be family members, friends, neighbors, other individuals, or home care agency employees. Research on other consumer-directed programs, including Cash and Counseling and the Veteran-Directed Home and Community Based Services Program, suggests that such flexibility allows recipients to obtain assistance with greater reliability and continuity of care (Milliken, Mahoney, & Mahoney, 2016; San Antonio, Simon-Rusinowitz, Loughlin, Eckert, & Mahoney, 2007). A growing number of states have implemented Medicaid programs that pay family members to provide personal care assistance, thus blurring the boundaries between formal and informal caregiving. This study was motivated by the need to understand potential differences in drivers of HCA retention when workers are also relatives. In prior qualitative investigations, family members who were paid by Medicaid to care for relatives described both high levels of satisfaction and stress associated with their work, and how these experiences were complicated by familial relationships (Howes, 2008; Stacey & Ayers, 2012).

Extensive literature has drawn from the job demands-resources model to examine satisfaction and turnover among home care workers (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Job demands consist of work-related strains that increase burdens and reduce satisfaction, including wages, physical strain, and recipient health and functional needs. Job resources can include quality of relationship to the recipient (Ashley, 2010). However, very little research has examined the unique experiences of HCAs who are both family members and paid employees.

A handful of studies on paid family HCAs in California suggest that job demands and resources operate differently for family versus non-family. Matthias et al. found none of the factors associated with intent to leave among agency HCAs was predictive for family HCAs, suggesting family members merit separate investigation (Matthias & Benjamin, 2005). Paid family HCAs report caregiving relationships are complex: higher levels of both closeness and conflict with recipients, greater social isolation yet getting along well with recipients, more physical strain, and the expectation to provide more hours of uncompensated care, relative to non-family (Kietzman, Benjamin, & Matthias, 2008; Matthias & Benjamin, 2005; Torres, Kietzman, & Wallace, 2015). Substantial research on informal caregiving has found family members experience increased financial stress, and poor mental and physical health outcomes (Pinquart & Sorensen, 2003), and these challenges are heightened for caregivers of individuals with dementia and/or severe disability (Wolff, Spillman, Freedman, & Kasper, 2016). None of these studies has quantitatively examined when family members leave their HCA roles.

Lastly, job demands and resources may vary by recipient race and ethnicity. Racial and ethnic minorities are more likely to receive care from family members (Howes, 2002; Kirby & Lau, 2010), potentially reflecting both recipient and family preferences, cultural expectations, and the need for culturally and linguistically appropriate care (Bradley et al., 2004; Smith et al., 2015). Minority sibling caregivers experience less depression and more often maintain life satisfaction, relative to non-Hispanic whites (Namkung, Greenberg, & Mailick, 2017). At the same time, job demands may be greater for minority recipients. Minorities who enter nursing homes are on average older in age and have a greater number of physical and cognitive impairments, suggesting that their home care demands may have been higher (Cai & Temkin-Greener, 2015). In addition, minorities experience disparities in access and quality for formal long-term services and supports, such that family caregiving may be the only option (Feng, Fennell, Tyler, Clark, & Mor, 2011; Smith, Feng, Fennell, Zinn, & Mor, 2007; Smith et al., 2015). Thus, minorities are more likely to receive care from a family member, but the demands of the job – greater caregiving needs, lack of alternative options – may be increased. To our knowledge, no study has examined the specific experiences of racial and ethnic minorities who have paid family HCAs.

In this study, we built upon prior research on HCAs by examining two outcomes in California Medicaid's Home and Community-Based Services personal care assistance program: first, whether a recipient *changed* HCAs and, second, whether a recipient *switched* between paid family and non-family assistance. We assumed that recipients with family member HCAs were less likely *to change* aides relative to those with non-family HCAs, due to increased family member commitment and recipient preferences. For those with family HCAs who *changed* aides, we assumed that the factors associated with *switching* from family to non-family care were related to health, functional and cognitive needs that increase HCA burden. Among recipients with non-family HCAs, we hypothesized that economic factors such as wages and local unemployment rates were associated with *changing aides to other non-family*, consistent with prior literature on agency HCAs, and not associated with *switching* to family. Lastly, we examined differences by the recipient race and ethnicity. We hypothesize that due to preferences and lack of alternatives, minority recipients are less likely to *switch to non-family*, but due to higher levels of care needs, are more likely to *higher likelihood of change within family*. The diversity of the California population can provide important insights for other states in which diversity, particularly among the older adult population, is on the rise.

Research design and methods

Sample

Given the available data (described below), our study analyses are conducted from the perspectives of recipients and thus observe whether recipients

experience a change in HCAs, rather than HCAs leaving jobs. To examine a sample with comparable benefits, conditions, and needs, we selected adult recipients dually eligible for Medicaid and Medicare who initiated services in 2006 or 2007, with no receipt of HCBS in the preceding year (82,946 recipients). We focused on first-time HCBS recipients to analyze a sample with comparable experience in identifying and working with Medicaid home care aides. Experienced recipients could introduce unobserved biases into the analysis, e.g. they selected HCAs they know from the past, thus reducing the likelihood of switching. Of those, 74,986 had complete information on HCA and recipient characteristics. To focus our analysis on long-term care, we restricted our sample to those who received services for at least 9 consecutive months or, if they discontinued services, reinstated within the same year. We found that 6,641 (8.9%) of first-time recipients, discontinued services in the first 9 months, resulting in a final sample size of 68,345.

Data sources

We linked multiple datasets, including Medicaid eligibility data provided by the California Department of Health Care Services, to identify the study population and obtain information on recipient age, sex, race, and ethnicity. We linked eligibility files to Medicaid claims to identify receipt of personal care assistance in HCBS. To identify recipient health conditions, we used Medicaid and Medicare claims data, and statewide hospital discharge data. We obtained functional and cognitive ability measures and living arrangement data from the state Case Management Information and Payrolling System (CMIPS) and Medicare assessment data. The state CMIPS database also contains information on HCA demographics, work hours, wages, and relationship to recipients. Lastly, we used county-level labor market data from the Bureau of Labor Statistics.

Measures

Dependent variable

The data lacked unique identifiers for HCAs, but contained detailed relationship information, e.g. spouse, adult child, neighbor, home health agency worker, or other. We thus measured a *change* in HCA as a change in the reported HCA relationship to the recipient within the first year of service. For switching between family and non-family, we measured the following: for those who initially received care from family members: whether the HCA *changed* to another family member, *switched* to a non-family HCA, or no change. For those who initially received care from non-family HCAs, the outcomes were: whether the HCA *changed* to another non-family, *switched* to a family member HCA, or no change (Figure 1).

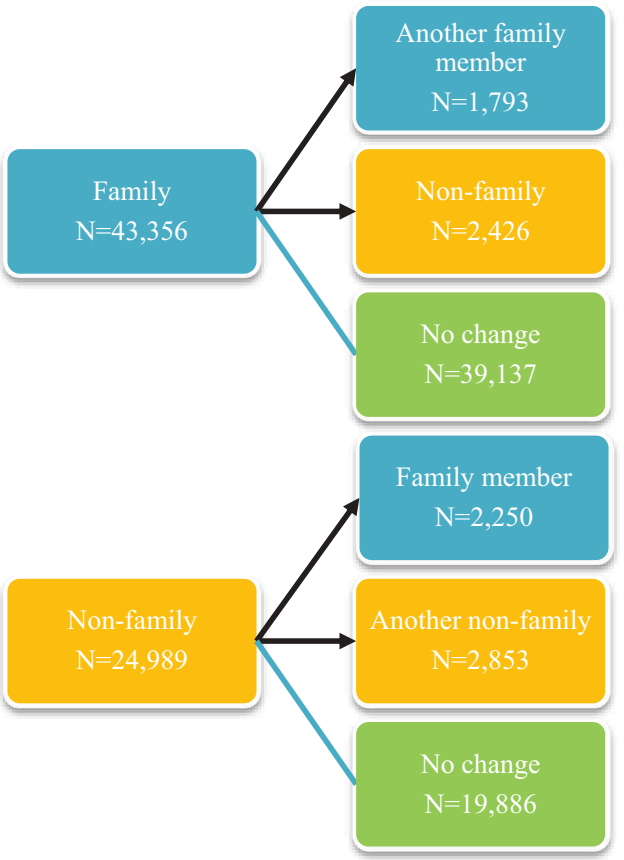

Figure 1. Types of changes among Medicaid HCBS home care aides, within the first year of service.

Independent variables

We categorized spouse, children, and other relatives as family HCAs and all others as non-family. We included HCA age, gender, hourly wage, and a number of authorized service hours per month. In California, each of the 58 counties sets a base wage rate with an upper limit set by the legislature. The hourly wage is then negotiated with local union representatives, adjusted for individual experience and qualifications within this range, thus producing wage variation across the state.

We included recipient age, gender, and race and ethnicity (aggregated U.S. Census categories of non-Hispanic White, Hispanic, Black, Asian, and Other). To measure health status, we calculated the Chronic Illness and Disability Payment Score (CDPS) from diagnoses data, with higher scores reflecting greater chronic disease comorbidity (Kronick, Gilmer, Dreyfus, & Lee, 2000). We used diagnoses obtained from any health-care setting, including claims and discharge data. The CDPS includes chronic conditions such as diabetes, hypertension, and chronic obstructive pulmonary disease. To further account for the higher prevalence of the following conditions among the dual-eligible population, particularly those under

age 65, we used CDPS indicators for central nervous system, psychological and substance use disorders (see Appendix A, Table A1, for a complete list of diagnoses for each category) (Ko et al., 2018). We dichotomized functional status as three or more limitations in Activities of Daily Living (ADLs), as recipients with three or more may be eligible for additional Medicaid benefits including skilled nursing facility care. We measured cognitive limitation as a requirement of supervision for impairment in memory, judgment, or orientation. Because the study period preceded the Affordable Care Act, individuals were not categorically eligible for Medicaid by income, and thus we also controlled for Medicaid eligibility type (Table 1, see *Appendix A* for description).

Table 1. Characteristics of first-time recipients and providers of California Medicaid personal care assistance, 2006–2007. (N = 68,345). Continuous values reported as mean (SD); categorical values as frequency (number).

Relationship of HCA to recipient	Family HCA n = 43,356	Non-family HCA n = 24,989
HCA Characteristics		
Mean hourly payment rate	$9.15 (1.0)	$9.09 (1.1)
Mean service hours per 2-week	53.8 (36.2)	55.8 (33.8)
Mean age	43.6 (16.3)	46.4 (17.9)
Female	76.8% (33,297)	82.4% (20,590)
Recipient Characteristics		
Mean age*	67.8 (14.9)	64.0 (15.4)
Female***	63.5% (27,531)	59.0% (14,743)
Race/Ethnicity***		
Non-Hispanic White	26.5% (11,489)	37.3% (9,321)
Hispanic	27.7% (12,010)	20.9% (5,223)
Black	12.1% (5,246)	19.2% (4,798)
Asian	27.3% (11,836)	17.0% (4,248)
Other	6.4% (2,775)	5.6% (1,399)
Mean CDPS[a]*	1.86 (1.7)	1.92 (1.6)
3+ ADL limitations[b]**	13.7% (5,940)	9.6% (2399)
Cognitive limitations[c]**	12.3% (5,333)	14.8% (3,698)
Psychological conditions[d]	13.1% (5,680)	16.5% (4,123)
Substance use disorder[d]	3.8% (1,647)	7.7% (1,924)
Central nervous system condition[d]	17.7% (7,674)	19.9% (4,973)
Medicaid Eligibility Category***		
Medically Needy	23.2% (10,059)	20.3% (5,073)
Aged	37.2% (16,128)	28.3% (7,072)
Disabled/Blind	39.2% (16,995)	50.9% (12,719)
Other	0.4% (173)	0.5% (125)
County market factors		
Unemployment rate (%)	7.8 (2.5)	7.8 (2.3)
Average weekly wages (thousands)	0.956 (0.226)	0.975 (0.221)

*p < .05; **p < .01; ***p < .001 for differences between recipients with family versus non-family HCAs.
[a]Chronic Illness and Disability Payment System tool consolidates diagnostic codes into 58 categories and assigns each a score that represents the incremental, prospective expenditure risk associated with that category. Higher scores reflect greater morbidity (Kronick et al., 2000).
[b]Limitations in activities of daily living (bathing, dressing, toileting, transferring, eating)
[c]Limitation in Memory, Orientation, or Judgment requiring assistance, supervision or cueing.
[d]Categorized from diagnostic codes, see Appendix Table A1 for detailed categorization.

Because local labor market conditions also affect the likelihood of whether an HCA leaves a position, we controlled for the county unemployment rate and average county-level weekly wages.

Analyses

We examined the characteristics of recipients with family member versus non-family HCAs and conducted logistic regressions on the full sample to examine associations between having a family versus non-family HCA and *changing* aides, controlling for recipient, HCA, and local market characteristics. Because we assumed family versus non-family have markedly different motivations for providing care, we then stratified the sample by family versus non-family HCAs. For each subsample, we conducted multinomial logistic regressions to estimate associations between independent variables and the following outcomes: for those with family HCAs, *changing* to another family HCA, *switching* to non-family HCA, or no change; for those with non-family HCAs, *changing* to another non-family, *switching* to family, or no change (Figure 1). Because relative risk ratios estimated by multinomial logistic regressions only provide insight for each outcome relative to the reference outcome, we then estimated predicted and marginal probabilities for significant predictors of interest. We used clustered-robust standard errors to adjust for within-county correlation. We used Wald tests to assess for significant differences between coefficients from each multinomial logistic regression sample (family vs. non-family HCA).

Stata 15 was used to perform all analyses (StataCorp, 2015). The study was approved by the Committee on Human Research of a large public university in the West.

Results

Over 60% of recipients received care from a family HCA (Table 1). Of non-family HCAs, nearly all were independent providers rather than employees of home health businesses (Table 2). In this time period, hourly wages ranged from $6 to $12 per hour. Relative to recipients with non-family HCAs, those with family HCAs were older, more likely to be female, less likely to be non-Hispanic White, have fewer chronic conditions and cognitive limitations, but more likely to have 3+ ADLs (Table 1). There were no significant differences in wages or service hours for family versus non-family HCAs.

Over 13% of recipients changed HCAs at least once within the first year. Family member HCA was associated with a lower predicted probability of change: 9.77% (95% CI 8.48–11.06) versus 20.30% (95% CI 19.18–21.42) for non-family HCA, $p < .001$ for the contrast (See *Appendix B* for full model results).

Among recipients with family HCAs, 4% changed to another family member and 5.6% switched to a non-family HCA. Adjusting for other HCA, recipient, and local market characteristics, recipient race and

Table 2. Relationships of home care aides for first-time recipients of California Medicaid personal care services, 2006–2007.

Relationship	Number	%
Family		
Spouse	2,839	4.2%
Parent Adult	62	0.1%
Parent Minor Child	1,593	2.4%
Minor Child	76	0.1%
Adult Child	25,040	36.6%
Other Relative	13,746	20.1%
Non-family		
Friend	10,292	15.1%
Neighbor	311	0.5%
Landlord	50	0.1%
Housemate	229	0.4%
Live-In Provider	214	0.3%
Home Health Agency	205	0.3%
Other Business	42	0.1%
Other	13,646	19.6%
Total	68,345	100%

ethnicity, and health and functional limitations were associated with changing to other family HCAs and switching to non-family (Table 3). Black and Asian recipients both had a higher predicted probability of changing to other family HCAs, relative to non-Hispanic whites (White: 3.8%, Black: 4.6%, $p < .05$; Asian: 4.5%, $p < .01$). Black recipients also had a higher predicted probability of switching to non-family (Black: 9.6%; White: 5.9%, $p < .01$), whereas Asians had a lower probability (3.9%, $p < .5$). Recipients with three or more ADL limitations had a higher predicted probability of changing to another family member (5.1% vs. 4.0% for those with <3 ADL limitations, $p < .01$). Having a cognitive limitation (7.4% vs. 5.4% for no cognitive limitations, $p < .01$) or a psychological condition were associated with changing to a non-family HCA (6.5% vs. 5.4%, $p < .001$). Recipients with substance use disorders experienced higher probabilities of both changing to another family member (6.1% vs. 4.0%, $p < .001$) and switching to a non-family HCA (7.2% vs. 5.5%, $p < .001$). The marginal probabilities of switching to a non-family HCA with 10-year increases in age from 20 to 90 were statistically significant but small in magnitude (range: 0.4%- 0.7%, for $p < .001$ for all contrasts).

Among recipients with non-family HCAs, 11.4% changed to another non-family HCA and 9% switched to family. Adjusting for other characteristics, recipient race and ethnicity were associated with HCA outcomes, as well as provider and market factors (Table 4). Black recipients had a higher predicted probability of changing between non-family HCAs relative to whites (12.7% versus 10.8%, $p < .01$). Relative to non-Hispanic whites, Hispanic, black and Asian recipients all had higher predicted probabilities of switching to family (10.5%, 10.4%, and 12.8%, respectively, versus 6.1% for whites, $p < .001$ for all

Table 3. Characteristics associated with a change in home care aide (HCA), among recipients with family member HCAs. (N = 43,356).

	Change to another family member HCA		Switch to a non-family HCA	
Ref: No change in HCA	N = 1793		N = 2426	
N = 39,137	RRR	95% CI	RRR	95% CI
HCA characteristics				
Hourly Payment rate ($)	0.99	(0.87–1.13)	1.08	(0.92–1.28)
Service hours per week	1.00	(1.00–1.00)	1.00***	(1.00–1.00)
Age	0.99	(0.99–1.00)	0.99*	(0.99–1.00)
Female	0.87*	(0.78–0.97)	0.92	(0.82–1.03)
Recipient characteristics				
Age	1.00	(1.00–1.00)	0.99***	(0.99–0.99)
Female	1.09	(0.99–1.21)	1.13*	(1.02–1.25)
Race/ethnicity (ref Non-Hispanic White)				
Hispanic	1.06	(0.94–1.18)	0.82	(0.60–1.12)
Black	1.26**	(1.06–1.51)	1.71**	(1.19–2.46)
Asian	1.20**	(1.08–1.33)	0.66*	(0.46–0.95)
Other	0.90	(0.76–1.05)	0.86	(0.68–1.09)
CDPS	1.00	(0.97–1.03)	1.00	(0.97–1.02)
3+ ADL limitations	1.29***	(1.12–1.48)	0.96	(0.86–1.07)
Cognitive limitations	1.03	(0.89–1.19)	1.37**	(1.12–1.68)
Psychological conditions	1.01	(0.91–1.11)	1.22***	(1.11–1.34)
Substance use disorder	1.58***	(1.31–1.91)	1.38***	(1.20–1.60)
Central nervous system condition	1.16***	(1.08–1.25)	1.09	(0.93–1.27)
Medicaid Eligibility Category (ref Other)				
Medically Needy	0.86	(0.45–1.62)	1.45	(0.83–2.52)
Aged	0.93	(0.49–1.75)	1.56	(0.89–2.70)
Disabled	0.91	(0.51–1.60)	1.69	(0.93–3.07)
County market factors				
Unemployment rate (%)	1.00	(0.98–1.03)	1.01	(0.98–1.04)
Average weekly wages (thousands)	0.75	(0.40–1.42)	0.82	(0.32–2.06)

RRR: Relative Risk Ratio; *p < .05; **p < .01; ***p < .001

contrasts). The marginal probabilities of switching associated with 10-year increases in recipient age from 20 to 90 were not statistically significant. Recipients with three or more ADL limitations had a higher probability of switching to family HCA (10.7% vs. 8.8%, $p < .05$).

Although the unemployment RRR was significant for changing among non-family, relative to no change, marginal probabilities for 1-percentage-point increases in local unemployment rates were not significant. Increasing provider hours were associated with switching to family HCA, but marginal probabilities of 20-hour increases in HCA monthly hours were small in magnitude (range: 0.5 to 0.7 percentage points, from 10 to 100 hours). The marginal probabilities of $1 increases in payment rates were negative for changing to another non-family HCA (range −2.3% to −0.1.2%, $p < .001$ for all contrast); the predicted probability of change to another non-family HCA was 17.7% for those paid $6/hour, versus 7.4% for those paid $12/hour ($p < .001$ for the contrast).

Testing for differences between regression coefficients for family and non-family HCA models was significant at $p < .001$, suggesting that relationships

Table 4. Characteristics associated with a change in home care aide (HCA), among recipients with non-family HCAs. (N = 24,989).

	Change to another non-family HCA		Switch to a family member HCA	
Ref: No change in HCA	N = 2853		N = 2250	
N = 19,886	RRR	95% CI	RRR	95% CI
HCA characteristics				
Hourly Payment rate ($)	0.84***	(0.78–0.91)	0.92	(0.83–1.02)
Service hours per week	1.00	(1.00–1.00)	1.00***	(1.00–1.01)
Age	1.00*	(0.99–1.00)	0.99***	(0.98–0.99)
Female	1.15***	(1.07–1.23)	1.07	(0.96–1.19)
Recipient characteristics				
Age	0.99**	(0.99–1.00)	1.00	(0.99–1.00)
Female	1.24***	(1.17–1.32)	1.56***	(1.42–1.71)
Race/ethnicity (ref Non-Hispanic White)				
Hispanic	1.09	(0.85–1.39)	1.85***	(1.70–2.02)
Black	1.29***	(1.15–1.45)	1.87***	(1.67–2.09)
Asian	1.28**	(1.09–1.50)	2.38***	(2.06–2.74)
Other	0.95	(0.71–1.28)	1.45***	(1.27–1.66)
CDPS	1.02	(0.94–1.13)	1.02	(0.99–1.06)
3+ ADL limitations	1.08	(0.99–1.18)	1.26*	(1.04–1.53)
Cognitive limitations	1.03	(0.95–1.14)	0.92	(0.81–1.05)
Psychological conditions	1.08	(0.99–1.18)	1.09	0.98–1.21)
Substance use disorder	1.05	(0.90–1.22)	1.06	(0.89–1.27)
Central nervous system condition	1.07	(0.96–1.19)	0.91	(0.81–1.03)
Medicaid Eligibility Category (ref Other)				
Medically Needy	1.30	(0.76–2.23)	0.89	(0.46–1.73)
Aged	1.30	(0.72–2.35)	0.97	(0.51–1.86)
Disabled	1.53	(0.89–2.62)	1.06	(0.56–2.03)
County Market Factors				
Unemployment rate (%)	0.94***	(0.91–0.96)	0.98	(0.94–1.02)
Average weekly wages (thousands)	1.40	(0.92–2.16)	0.63	(0.37–1.06)

RRR: Relative Risk Ratio; *p < .05; **p < .01; ***p < .001

between independent variables and outcomes differ by family vs. non-family HCA, and stratified analyses are appropriate.

Discussion

Paying family for home care assistance can partially offset the burdens of uncompensated caregiving and bolster the long-term care workforce (Benjamin, Matthias, Kietzman, & Furman, 2008). Challenges in maintaining continuity of care, individual comfort, trust, communication, and availability contribute to recipient and family preferences for personal care assistance provided by family members. Our findings are consistent with past analyses of national labor force survey data, in that we found lower rates of change among family member HCAs, whereas rates of changing among non-family were substantially higher and comparable to national estimates (Frogner & Spetz, 2015; Seavey & Marquand, 2011). As expected, predictors of changing HCAs differed for family versus non-family HCAs.

Among those with family HCAs, we found that higher wages are not associated with HCA changes – consistent with past qualitative findings on California HCAs that among paid family HCAs, motivations are far more complex than simply receiving payment (Howes, 2008; Stacey & Ayers, 2012). Instead, the association between 3+ ADL limitations and change to other family suggest that higher caregiver burden leads to a change of HCA. Recipients and/or their families may switch to non-family care due to the particular challenges of caring for those with cognitive limitations (Kasper, Freedman, Spillman, & Wolff, 2015; Kim & Schulz, 2008; Van Bruggen et al., 2016). Recipient substance use disorders and central nervous system disorders were associated with both changing to other family and switching to non-family, perhaps due to higher physical and emotional burdens. Family HCAs may have less training to care for complex recipients: the state recommends but does not mandate training for Medicaid HCAs (Kelly, Morgan, & Jason, 2013). Moreover, given the duration and refractory nature of substance use disorders, and their toll on families, it is possible that recipients have already exhausted informal care options (Orford, Velleman, Copello, Templeton, & Ibanga, 2010).

For recipients with non-family HCAs, lower wages were associated with change only to other non-family HCAs, supporting a prior survey study in Washington state in which HCAs cited low wages as a key factor in leaving a home care job (Banjimali, Jacoby, & Hagopian, 2015). In their qualitative study of California HCAs, Howes et al. find that under strong economic conditions, workers may have other more attractive job options (Howes, 2008). Since the study period, the minimum wage has increased, but mean wages for HCAs nationally have remained stagnant in the past ten years (Espinoza, 2017).

Our findings highlight the importance of paying family members for care for racial and ethnic minorities. A greater proportion of Asian and Hispanic recipients has family member HCAs, and exhibit greater odds of switching to family member HCA even if they start out with non-family. Greater family member caregiving may reflect personal and cultural preferences, the relative availability of family members and the need for a cultural and linguistic concordance. (Kirby & Lau, 2010; Smith et al., 2015; Weng & Landes, 2017).

Lastly, we found black recipients had lower HCA continuity relative to non-Hispanic whites, irrespective of whether they initiated care with a family or non-family HCA. Challenges for black recipients may include higher levels of disability (Li & Fries, 2005), more restricted and less stable social networks (Barnes, Mendes de Leon, Bienias, & Evans, 2004), and difficulties in obtaining home-based care in segregated neighborhoods (Konetzka & Werner, 2009). Black recipients may also change non-family HCAs because they more often receive a lower quality of home health care and experience discrimination from home care workers (Joynt Maddox, Chen, Zuckerman, & Epstein, 2018; Smith et al., 2015).

Limitations

First, without unique HCA identifiers, our measures of HCA switching are likely underestimates, particularly among non-family. Over 19% of non-family HCAs self-identified as "Other," and we were unable to determine their relationship to recipients; thus, we limit our assumptions for this group as non-family. Second, we examined between-county differences in hourly wage rates, rather than longitudinal changes, which would be a more robust testing of the effects of wage increases. Third, administrative data lack information on other factors known to affect worker exits, including working conditions, injuries, desire for more hours, job satisfaction, or health-care benefits (Howes, 2005, 2008; Stone et al., 2017). We were also unable to differentiate between switching due to HCA versus recipient preferences. However, our study contributes to prior literature on HCAs by examining actual job changes, not only intent to leave or worker satisfaction. Fourth, we examined a single state with a high rate of paid family care, thus limiting our generalizability to other states. However, this design allowed for uniformity in Medicaid eligibility requirements and programs that may confound multistate analyses, and informs other states interested in expanding consumer direction. Lastly, our study period pre-dates the Affordable Care Act, but we have utilized the most recent data available for this type in California. Following the ACA, California engaged in demonstration initiatives to integrate Medicare and Medicaid acute care and long-term services and supports, with managed care management. However, consumer-directed home care assistance under HCBS remained consistent and largely independent of managed care plans, with policies on hiring, retaining, and payment unchanged (Hinrichs, 2014). Since the study period, an increasing number of states have begun to allow family members to receive payment for home care assistance making our study in California more generalizable to other states. Furthermore, we have no theoretical reason to expect that the dynamics of family member caregiving, or wages and turnover, have altered substantially over time.

Implications

This study emphasizes that the incentives of worker recruitment and retention differ between family and non-family home care aides, even when the family are paid to provide care, and thus the development of policy regarding the HCA workforce warrants further investigation. The findings suggest policymakers can bolster the workforce by paying family members to provide home personal care assistance (Benjamin et al., 2008). Prior research has shown that health outcomes and recipient satisfaction are equivalent or better when family members provide personal care (Newcomer, Kang, & Doty, 2012; Newcomer et al., 2011). At the same time, our findings emphasize the challenges of family caregiving for those with a high degree of functional, cognitive and mental

health needs. Family members caring for recipients with these conditions likely require greater support in the forms of training and respite services.

Our findings among non-family HCAs support prior work emphasizing the importance of higher wages in reducing turnover in the long-term care workforce. Our study alters the perspective slightly to focus on continuity of care for recipients of home and community-based services. Thus, raising wages may improve not only the supply and stability of the home care workforce but also the quality of care that is provided.

Furthermore, this option of paying family members to provide home care assistance appears particularly meaningful for racial and ethnic minorities, who experience barriers in access to formal long-term services and supports. Promoting payment of family members to serve as home care aides may comprise one avenue to reduce disparities. We also find that changing HCAs is higher among those without access to care from family, and thus these minorities may be vulnerable to greater disparities in quality of home and community-based care.

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